

REMARKS

Claims 13, 15, 17-23, 25-28, 30 and 31 are currently pending. Claims 13, and 25 are amended. No new matter is presented. In view of the above amendments and the following remarks, Applicants submit that claims 13, 15, 17-23, 25-28, 30 and 31 recite patentable subject matter. Accordingly, Applicants request the favorable consideration and allowance of claims 13, 15, 17-23, 25-28, 30 and 31.

Claims 13, 15, 17-23, 25-28, 30, and 31 are rejected under 35 U.S.C. 112, first paragraph. Claims 13 and 25 are amended to overcome the cited rejection. No new matter is presented. Therefore, Applicants request the withdrawal of the rejection of claims 13, 15, 17-23, 25-28, 30, and 31.

The Examiner rejected claims 13, 15, 17-21, 23, 25, 26, 28, and 30 under 35 U.S.C. 103(a) as being obvious over admitted prior art in view of Nagashima (US Patent No. 5,742,735) and Kaneda (US Patent No. 5,973,857). Claims 13 and 25 are amended to more clearly recite features that are neither taught nor suggested by the applied references. Based on these newly amended claims, Applicant respectfully traverses the rejection.

Independent claims 13 and 25 are amended to recite an arrangement having a control unit that is operable to control the first and second moving lenses so that the first and second lenses reach a desired reference point in discrete individual steps of varying magnitude. As mentioned previously, in the claimed invention, the first and second moving lenses L1 and L2 are independently controlled by direct driving motors LA1 and LA2, respectively. Based on a mathematical controlling curve which defines the position of the two lenses at every zooming position, a control unit knows exactly how many steps are needed for each motor to obtain a particular zooming position.

Nagashima is directed to a video-camera imaging-system lens barrel which includes a two-group type lens system a first lens group 2 and a second lens group 3, which are in focus in

an imaging place for each magnification at fixed substance distances and are controlled such that they move along the zoom tracking curves which represents the paths of movement of the respective positions of the first lens group and the second lens group.

Kaneda discloses a zoom lens in which a lens group is driven in response to an operation member provided on a body to which the zoom lens is attached. The system includes a rotary manual ring disposed on the lens barrel, and driving part is arranged to drive the lens group in accordance with a rotating state of the manual ring. Although Nagashima discloses the controlling of a two-group lens system, the cited references fail to teach or suggest all the features recited in claims 13 and 25.

The combination of the cited references discloses lenses that are position controlled which means that if a first lens has to move a longer distance than a second lens, then the second lens reaches its destination earlier than the first lens. As a result, during the time period until the first lens reaches its destination, the image is not sharp since the optical constraints are not fulfilled. Specifically, Nagashima fails to teach or suggest moving the lenses so that they reach their reference positions in discrete individual steps of varying magnitude. Thus, the combination of the cited references do not teach or suggest a control unit that controls the driving motors and the first and second moving lenses wherein each of the lenses are moved independently so that they reach the destination in discrete individual steps of varying magnitude depending on desired zoom resolution.

It is further submitted that Kaneda fails to cure the deficiencies of Nagashima. Therefore, Applicants submit that the combination of the cited references fail to teach or suggest the features recited in claims 13 and 25.

Claims 15, 17-21, 23, 26, 28 and 30 are dependent upon claims 13 and 25. Therefore, it is submitted that claims 15, 17-21, 23, 26, 28 and 30 recite patentable subject matter for at least the reasons mentioned above. Accordingly, Applicants request the withdrawal of the rejection of

claims 15, 17-21, 23, 26, 28 and 30 under 35 U.S.C. 103(a).

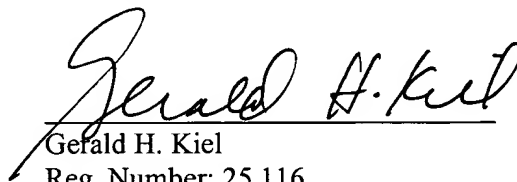
The Examiner rejected claim 22 under 35 U.S.C. 103 under Admitted prior art in view of Nagashima and Kaneda and further in view of Pensel (US Patent No. 5,867,308). Applicants submits that since claim 22 is dependent upon claim 13, claim 22 recites patentable subject matter for at least the reasons mentioned above. Therefore, Applicants request the withdrawal of the rejection of claim 22 under 35 U.S.C. 103(a).

Claims 27 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admission in view of Nagashima et al. and Kaneda as applied to claims 26 and 30 and further in view of Hirasawa (U.S. Patent No. 5,570,236).

Claims 27 and 31 are dependent upon claims 13 and 15. Therefore, Applicants respectfully submit that claims 27 and 31 recite patentable subject matter for at least the reasons mentioned above. Therefore, Applicants request the withdrawal of the rejection of claims 27 and 31 under 35 U.S.C. 103(a).

Based upon the above amendments and remarks, Applicant respectfully requests reconsideration of this application and its earlier allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,



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